

Work Order ID 59368

Wednesday, June 02, 2010 1:18:55 PM



Page 1

Item ID: D350-636-011

Accept



Setup Start



Revision ID:

Item Name: Skidtube LH

Stop



Start Date: 6/2/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 6/9/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: *PL*Date: *10-4-02*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D2750

Rev F

100

0.00



DC

DOCUMENT CONTROL

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-011 CHG 005

8/10/06/30

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110  Skidtubes	Skidtubes	0.00							
Skidtubes	Memo	0.00							
	1- Mark cut line on aft end of D2600-3-Bent using Jig DT 8150. Cut to length as per Dwg D2750. Deburr end								
	2-Drill pilot holes as per Dwg D2750 sheet 4 (D2750-1 details).Drill using drill Jig DT8150 & DT8863.								
	3- Mark fwd end for cutting using Drill Jig DT 8150 & DT8863 and cut as per dwg D2750.Deburr.								
	4- Drill fwd step holes using DT9616. Ensure proper positioning.								
	5- drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500"								
	6- locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting								
	7-Open up holes for Detail B to 0.375" (4 holes per side)and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750 .Open up holes for ground handling and detail C to 0.500" (8 holes per side)								
	8-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".								
	9-Open up holes of Detail A to 0.297" (total of 2 holes per side)								
	10-Weld D2744 Cap as per Dwg D2750 and QSI 004.Fill grooves in bend left from bending as per QSI 004 A/R <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Aluminum Rod <input type="checkbox"/>								

M114242

W/O:		WORK ORDER CHANGES						
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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

11-Grind welds flush as per Dwg D2750

12- Scribe batch# inside per dwg D2750

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

8/10/06/14

BE 10/06/14

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

8/10/06/14

④

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140  HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00				1		10/6/15	
150  QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00							 10-6-15

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Run Start
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Skidtubes	0.00							
Skidtubes	Memo	0.00							
Skidtubes	1-Open up holes of Detail C and ground handling to 0.625" (total of 8 holes per side) as per dwg D2750.								
	2-Open up holes of Detail B to 0.750" (total of 4 holes per side) as per dwg D2750.								
	3- Open float hole to 0.500" (4 per side)								
	4-Chamfer holes of Detail B, C, ground handling and float holes per dwg D2750 (welding instructions on sheet 8)								
	5-Deburr and blow out all chips from inside of tube								
	6- Prepare tube for welding, remove alodine as required.								
	7-Bond web D2739 in place as per QSI 015 A/R <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Sikaflex-291 batch: <u>M 113519</u> exp. date: <u>10/11/30</u>								
	8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 8) A/R <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Aluminum Rod batch: <u>M114242</u>								
	9- At section AJ-AJ drill out x-bolt spacer to 0.404"								
	10-Grind welds flush as per Dwg D2750								

G. n 10-06-18 (1)

BE 10-06-17

BE 10-06-17

10-6-15

W/O:		WORK ORDER CHANGES						
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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
	11-Spot face ground handling holes section (total of 4 places per side) as per dwg D2750								
	12-Deburr holes								
170	QC10- Inspect visual per QSI004- ground welds	0.00							
	Memo	0.00							
Quality Control									
180	QC5- Inspect part completeness to step on W/O	0.00							
	Memo	0.00							
Quality Control									

A.M 10-06-18

81066112

81066112

10

W/O:		WORK ORDER CHANGES					
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Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

✓ Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

X Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

= 7 M 10/06/28

1

9

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

M 114 841
START TIME: 11:00
OVEN TEMPERATURE: 320°
FINISH TIME: 11:30

1 BL 10-6-29

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

Inspect for foreign object per QSI 024

= 7 M 10/06/29

1

0

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220		0.00							
	HandFinishing								
HandFinish	Memo	0.00							
Hand Finishing	1- Install inserts as per Dwg D2750								
230		0.00							
	HandFinishing								
HandFinish	Memo	0.00							
Hand Finishing	1-Inspect for Foreign Objects								
	2-Spray inside of tube with "LPS-3" batch: NIA								
	3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750 SIKA FLEX 241 BATCH: 1113519 EXP DATE: 10/11								
	4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: 1110489								
	5-Coat all exposed fasteners with "LPS Procyon" batch: 11104251								

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	QC5- Inspect part completeness to step on W/O	0.00							
									
QC	Memo	0.00				m	10	06	30 ①
Quality Control									
250	Pick Kit	0.00							
									
Packaging	Memo	0.00							10-6-30 ②
Packaging									
260	QC4- 100% Inspect kits for completeness	0.00							
									
QC	Memo	0.00							8/10/06/30
Quality Control	*****ensure antiseize is on AN8C21A bolts*****								②

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	Packaging	0.00							
	Packaging								
	Packaging								
	Memo	0.00							
	Package as per PPP D350-636-011								
	Loc 72								
280	QC21- Final Inspection - Work Order Release	0.00							
	QC	0.00							
	Quality Control								

10/07/01

mf
10-7-01

W/O:		WORK ORDER CHANGES						
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Picklist Print

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Page 1

Work Order ID: 59368

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 6/2/2010

Required Date: 6/9/2010

Start Qty: 1.00

Required Qty: 1.00

D2594-3

Manufactured No

230 Each

231.0000 8 8



O-Ring, 205 Skidtube

Location

Loc Qty

Loc Code

FP

231

55546

19

58191

212

D2744

Manufactured No

110 Each

13.0000 1 1



Cap

Location

Loc Qty

Loc Code

LG

13

51922

13

D2600-3-BENT

Manufactured No

110 Each

13.0000 1 1



Extrusion Bent

Location

Loc Qty

Loc Code

LG

13

58903

13

D2743

Manufactured No

160 Each

57.0000 8 8



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

57

50281

10

52310

24

57953

23

Q 59111

x8

BE 10/06/17

x8 Hl 10/06/14

BE 10/06/14

BE 10/06/14

W/O:		WORK ORDER CHANGES						
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Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ
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 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates(Rev E) JLM Verified By: EC

Start Qty: 1.00

Required Qty: 1.00

D2739

Manufactured No

160 Each

7.0000

1 1



350 I Beam

Location	Loc Qty	Loc Code
LG	7	
57948	1	
58213	1	
58214	5	

① 10-6-15

D3490-3

Manufactured No

160 Each

66.0000

4 4



Cross Bolt Spacer

Location	Loc Qty	Loc Code
LG	66	
57918	6	
59229	60	

4 BE 10/06/17

D3490-1

Manufactured No

160 Each

56.0000

4 4



Cross Bolt Spacer

Location	Loc Qty	Loc Code
LG	56	
59228	56	

B59424 x4 BE 10/06/17

ALS4-1032-225

Purchased No

220 Each

7,062.000

38 38



Insert

Location	Loc Qty	Loc Code
PK011	7062	
110768	7062	

x38 H 10/06/129

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Shop Packet Print

Page 2

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 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates(Rev E) JLM Verified By: EC

Start Qty: 1.00

Required Qty: 1.00

D3492-041



Manufactured No

230 Each

94.0000 8 8

Plug Assembly



Location

Loc Qty

Loc Code

FP013

94

57915

30

58180

60

59189

4

8x 81 10/06/29

D3793-3



Manufactured No

230 Each

27.0000 1 1

Wearshoe



Location

Loc Qty

Loc Code

FP18

16

59152

16

FP19

11

57947

11

81 10/06/29

AN8C35A



Purchased No

230 Each

56.0000 1 1

BOLT



Location

Loc Qty

Loc Code

FP

6

110847

6

ST346

50

114442

50

81 10/06/29

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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IPP Rev: K 06-07.13 As per dsi9343 EC

IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Qty: 1.00

Required Qty: 1.00

D3793-1

Manufactured No

230

Each

10.0000

1

1



Wearshoe



Location

Loc Qty

Loc Code

FP18

10

1359151

56300

1

57945

9

D3488-041

Manufactured No

230

Each

29.0000

1

1



Blade Fitting Assembly, LH



Location

Loc Qty

Loc Code

FP

19

3915

19

FP007

10

56052

10

D3794-3

Manufactured No

230

Each

14.0000

1

1



Gasket



Location

Loc Qty

Loc Code

FP18

14

56066

14

1359153

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Shop Packet Print

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 5

Work Order ID: 59368



Parent Item: D350-636-011



Parent Item Name: Skidtube LH

Start Date: 6/2/2010

Required Date: 6/9/2010

Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Qty: 1.00

Required Qty: 1.00

AN6C44A

Purchased

No

230

Each

151.0000

4

4



BOLT



Location

Loc Qty

Loc Code

FG

2

103964

2

ST344

149

111649

2

114455

47

114653

50

114784

50

24 24 10/06/29

MS21083C8

Purchased

No

230

Each

41.0000

1

1



NUT



Location

Loc Qty

Loc Code

ST303

41

M 114934

113845

11

114523

30

21 24 10/06/29

D3536-25

Manufactured

No

230

Each

32.0000

1

1



Gasket



Location

Loc Qty

Loc Code

FP12

32

57944

6

58820

26

B 58820

21 24 10/06/29

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Page 5

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

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Page 6

Work Order ID: 59368

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 6/2/2010

Required Date: 6/9/2010

Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07-13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Qty: 1.00

Required Qty: 1.00

D3631-1 Manufactured No 230 Each 206.0000 8 8



Washer

Location

Loc Qty

Loc Code

ST076

206

1354388

x8 H 10/06/29

56293

206

D3791-1 Manufactured No 230 Each 5.0000 1 1



Wearplate

Location

Loc Qty

Loc Code

FP17

5

1358906

x1 H 10/06/29

56299

5

AN960C10L NAS1149C0332 Purchased No 230 Each 0.0000 38 38



washer

M115000

x38 H 10/06/29

D2745 Manufactured No 230 Each 146.0000 8 8



Bushing

Location

Loc Qty

Loc Code

ST023

146

52311

69

57914

77

x8 H 10/06/29

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, June 02, 2010 1:18:59 PM

Page 7

Work Order ID: 59368

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates(Rev E) JLM Verified By: EC

Start Date: 6/2/2010

Required Date: 6/9/2010

Start Qty: 1.00

Required Qty: 1.00

AN3C5A Purchased No 230 Each 923.0000 34 34



Bolt

Location	Loc Qty	Loc Code
ST350	825	
114330	125	
114523	200	
114808	500	
ST351	98	
113121	10	
114108	45	
114181	43	

x3d 10/04/29

D3537-1 Manufactured No 230 Each 11.0000 3 3



Wearpad

Location	Loc Qty	Loc Code
FP	1	
55465	1	
FP17	10	
57713	10	

B59116

x3d 10/04/29

AN960C816L Purchased No 230 Each 106.0000 1 1



WASHER

Location	Loc Qty	Loc Code
ST348	106	
110584	100	
111424	6	

x1 10/04/29

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Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Wednesday, June 02, 2010 1:18:59 PM

Page 8

Work Order ID: 59368



Parent Item: D350-636-011



Parent Item Name: Skidtube LH

Start Date: 6/2/2010

Required Date: 6/9/2010

Comments: IPP Rev: ☐ 02.09.25 ☐ Rearranged procedure steps ☐ KJ ☐
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates(Rev E) JLM Verified By: EC

Start Qty: 1.00

Required Qty: 1.00

D3492-043



Plug Assembly

Manufactured No 230 Each 57.0000 8 8

Location Loc Qty Loc Code

FP 2 B59117
 54682 2
 FP013 55 B59421
 57916 51
 59190 4

X6 H 10/06/29
 X2 H 10/06/29

AN3C6A



BOLT

Purchased No 230 Each 565.0000 4 4

Location Loc Qty Loc Code

ST351 565
 (11982) 565

X4 H 10/06/29

NAS1611-013



O-RING

Purchased No 230 Each 219.0000 8 8

Location Loc Qty Loc Code

FP 219
 (114451) 181
 114496 38

X8 H 10/06/29

D3535-25



Wearshoe

Manufactured No 230 Each 13.0000 1 1

Location Loc Qty Loc Code

FP18 13
 57943 13 B59150

X1 H 10/06/29

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Page 8

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

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Page 9

Work Order ID: 59368

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Comments: IPP Rev:I 02.09.25 Rearranged procedure steps KJ
 IPP Rev:J 06-03-23 As per Rev D JLM
 IPP Rev:K 06-07.13 As per dsi9343 EC
 IPP Rev:L 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC

Start Date: 6/2/2010

Required Date: 6/9/2010

Start Qty: 1.00

Required Qty: 1.00

D3794-1 Manufactured No 230 Each 32.0000 1 1
 Gasket

Location	Loc Qty	Loc Code
FP010	26	
57942	26	
FP014	6	
57537	6	

MS21043-6 Purchased No 230 Each 826.0000 4 4
 NUT

Location	Loc Qty	Loc Code
ST301	826	
12314	826	

D3493-1 Manufactured No 260 Each 33.0000 2 2
 Washer

Location	Loc Qty	Loc Code
ST065	33	
57825	33	

MS21083C8 Purchased No 260 Each 41.0000 1 2
 NUT

Location	Loc Qty	Loc Code
ST303	41	
113845	11	
114523	30	

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Page 9

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, June 02, 2010 1:18:59 PM

Page 10

Work Order ID: 59368

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 6/2/2010

Required Date: 6/9/2010

Start Qty: 1.00

Required Qty: 1.00

AN8C21A Purchased No 260 Each 111.0000 2 2
 BOLT
 10-6-30

Location	Loc Qty	Loc Code
ST345	111	
111605	21	
113558	50	
114653	40	

AN960C816L Purchased No 260 Each 106.0000 1 2
 WASHER
 10-6-30

Location	Loc Qty	Loc Code
ST348	106	
110584	100	
111424	6	

D3672-1 Manufactured No 230 Each 1,367.000 4 4
 Phenolic Washer

Location	Loc Qty	Loc Code
ST077	1367	
51674	367	
52505	1000	

D2741 Manufactured No 260 Each 27.0000 1 1
 Blade, 350 Skidtube
 10-6-30

Location	Loc Qty	Loc Code
ST466	27	
55905	27	

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Page 10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 11

Work Order ID: 59368



Parent Item: D350-636-011



Parent Item Name: Skidtube LH

Start Date: 6/2/2010

Required Date: 6/9/2010

Comments:

IPP Rev: I ☐ 02.09.25 ☐ Rearranged procedure steps ☐ KJ ☐
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates(Rev E) JLM Verified By: EC

Start Qty: 1.00

Required Qty: 1.00

D3532-1

Manufactured No

260

Each

25.0000

2

2



Spacer



10-6-30 SP

Location

Loc Qty

Loc Code

ST068

25

52321

25

2

D3672-13

Purchased

No

260

Each

894.0000

2

2



Phenolic Washer



10-6-30 SP

Location

Loc Qty

Loc Code

ST077

894

54363

894

2

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

SHOP COPY
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 59368
B810-6-02

RELEASED
68-07-12-14

F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS; CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741; QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
O	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEC 9133/9157	PH	08.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	PC	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWN	RAH		
CHECKED	RAH	DRAWING NO.	REV. F
MFG. APPR.	RAH	D2750	SHEET 1 OF 11
APPROVED	RAH	TITLE	SCALE
DE APPR.	RAH	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	COPYRIGHT © 1995 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMBOD OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

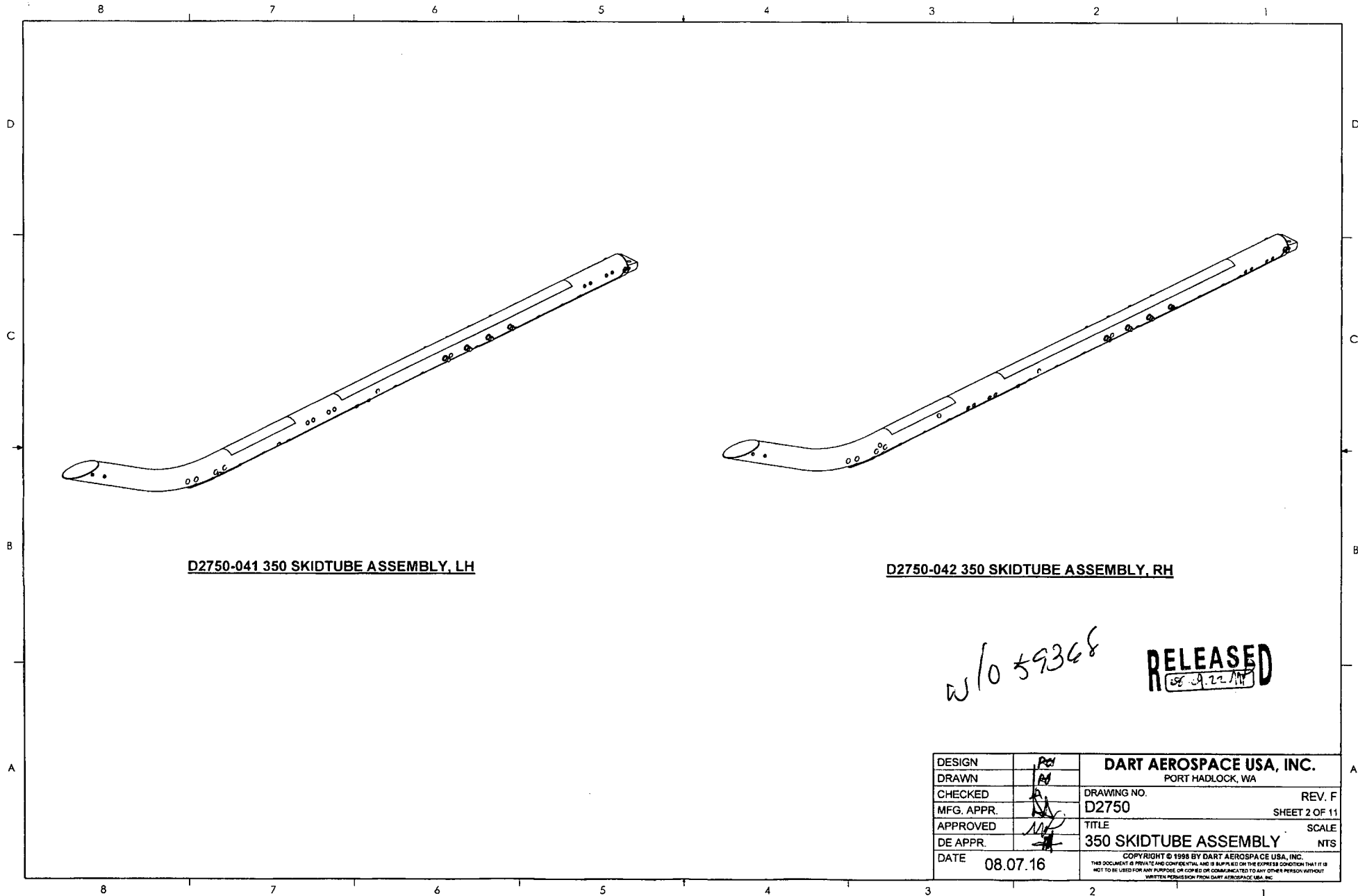
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2750-041 350 SKIDTUBE ASSEMBLY, LH

D2750-042 350 SKIDTUBE ASSEMBLY, RH

W/0 59368

RELEASED
28 JUL 1998

DESIGN	PC	DART AEROSPACE USA, INC.	
DRAWN	AM	PORT HADLOCK, WA	
CHECKED	AM	DRAWING NO.	REV. F
MFG. APPR.	AM	D2750	SHEET 2 OF 11
APPROVED	AM	TITLE	SCALE
DE APPR.	AM	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

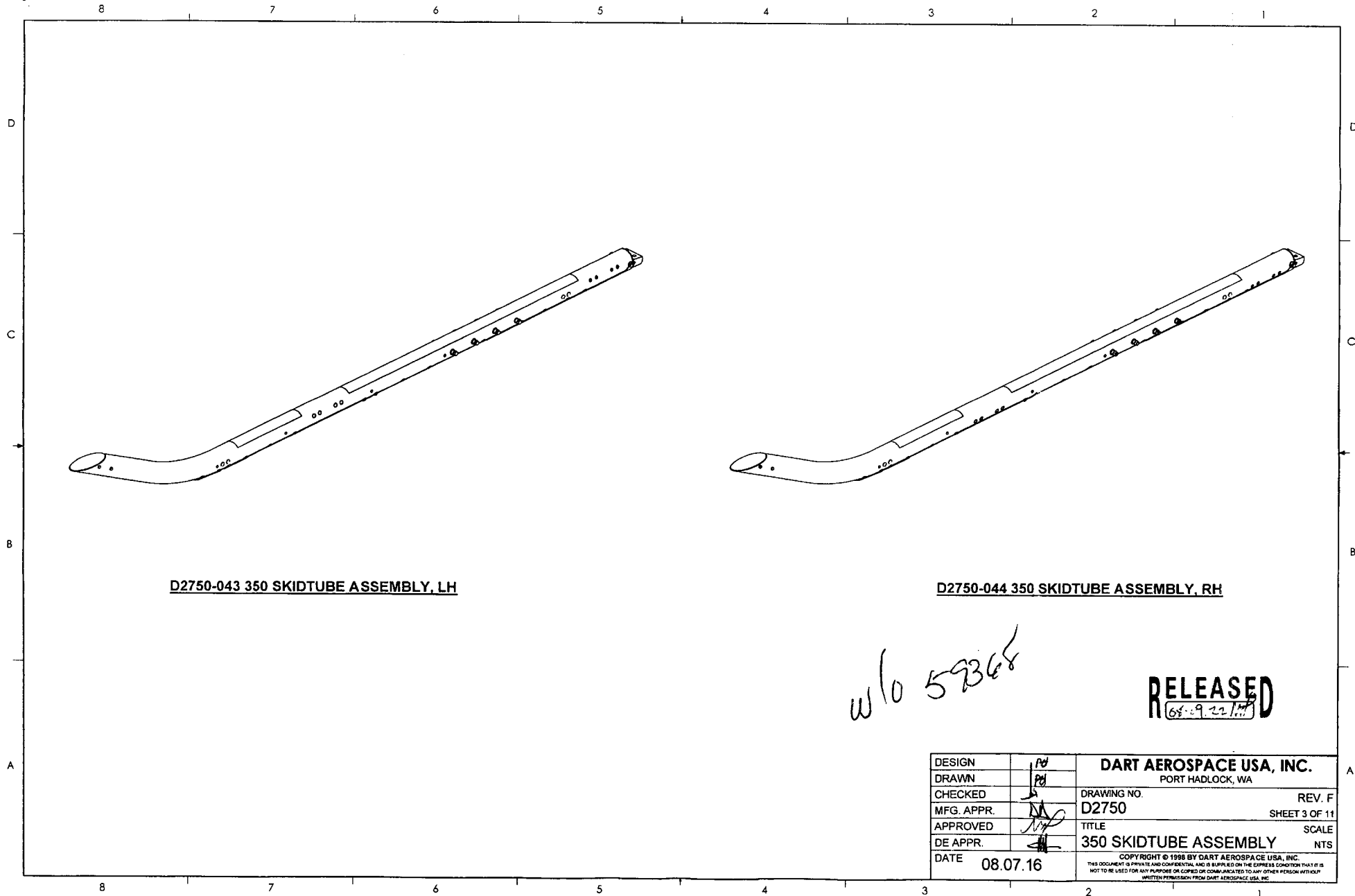
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2750-043 350 SKIDTUBE ASSEMBLY, LH

D2750-044 350 SKIDTUBE ASSEMBLY, RH

w/o 59368

RELEASED
68-9-22-100

DESIGN	PD	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWN	PD		
CHECKED	NA	DRAWING NO.	REV. F
MFG. APPR.	NA	D2750	SHEET 3 OF 11
APPROVED	NA	TITLE	SCALE
DE APPR.	NA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1988 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

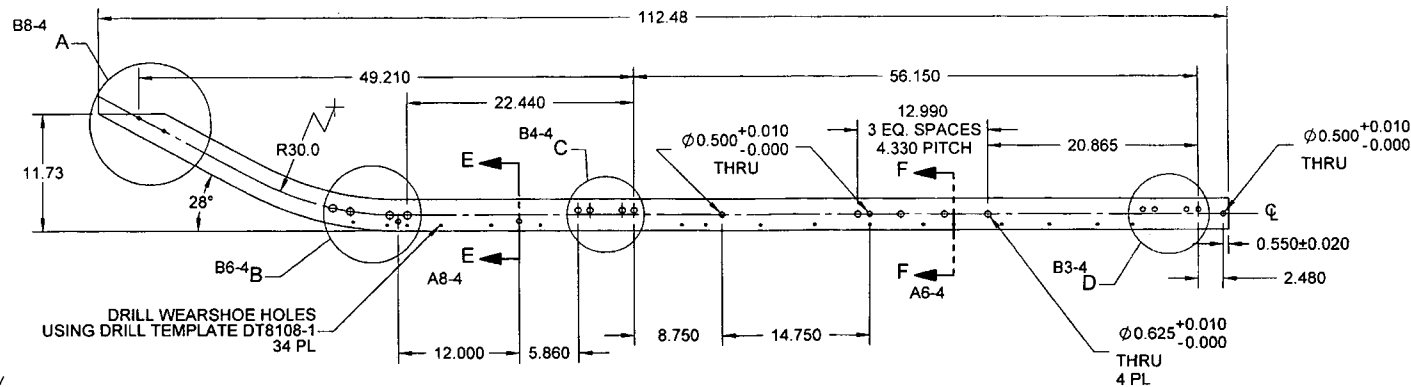
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

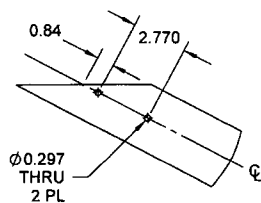
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

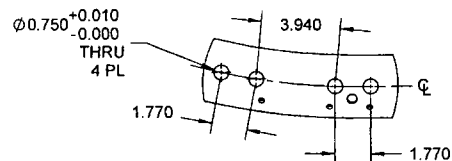
NOTE: Date & initial all entries



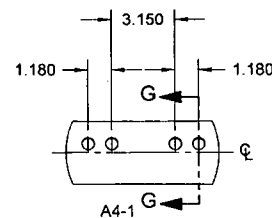
D2750-1 LH SKIDTUBE



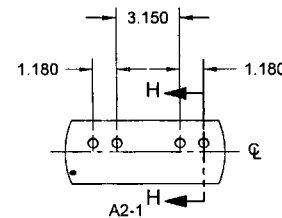
DETAIL A
SCALE 2X



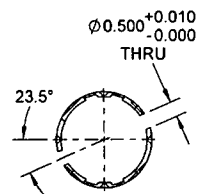
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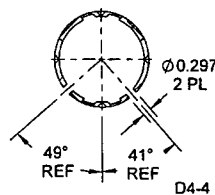
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SCALE 2X



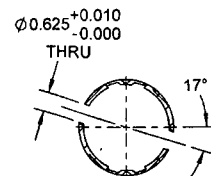
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SCALE 2X



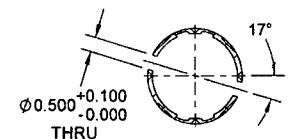
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

w/o 59368

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DESIGN	PH	DART AEROSPACE USA, INC.	
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CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 4 OF 11
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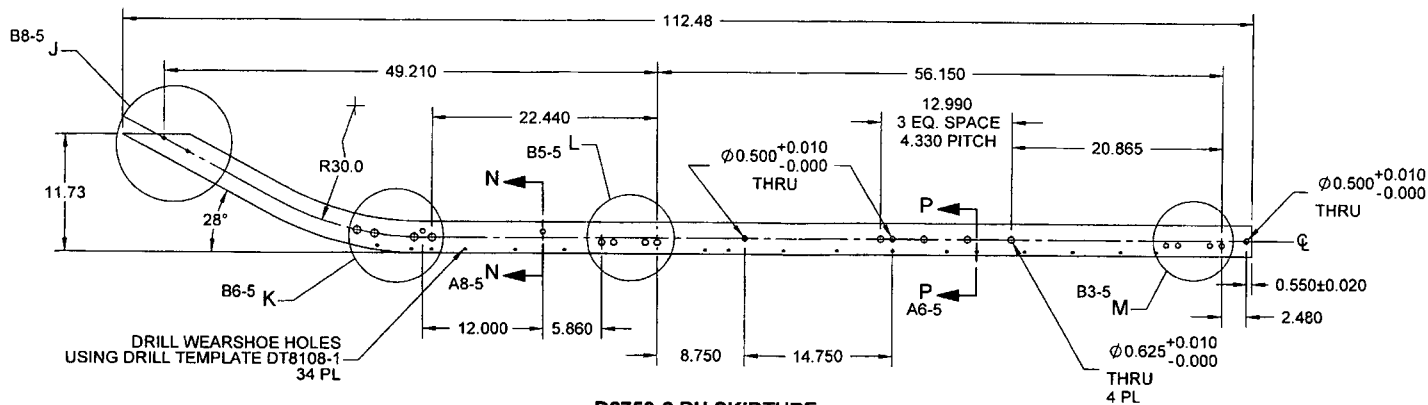
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

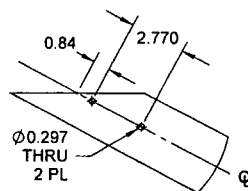
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

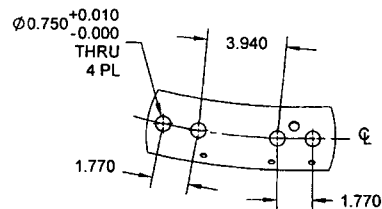
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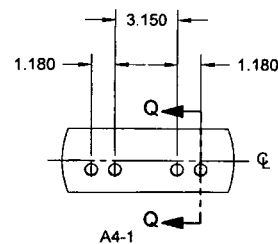
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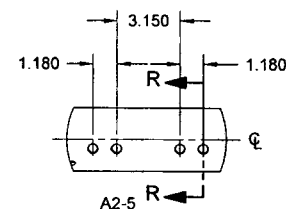
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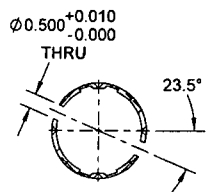
DETAIL K
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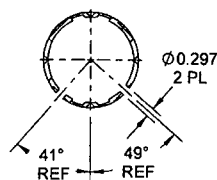
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SCALE 2X



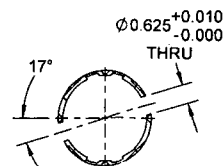
DETAIL M
SCALE 2X



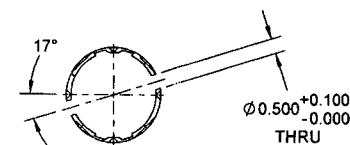
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

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DESIGN	REV	DART AEROSPACE USA, INC.	
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MFG. APPR.		D2750	SHEET 5 OF 11
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

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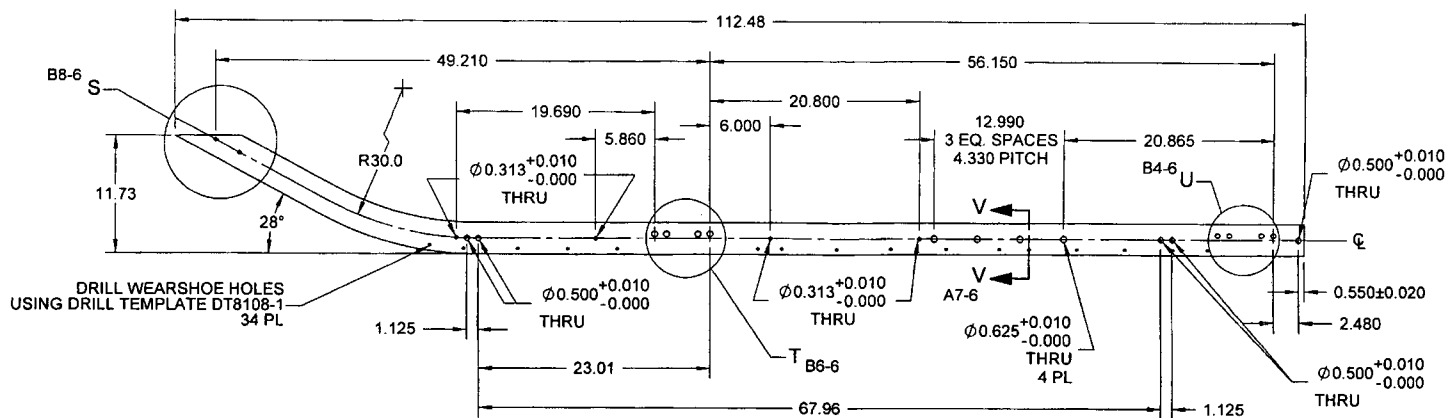
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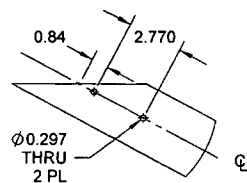
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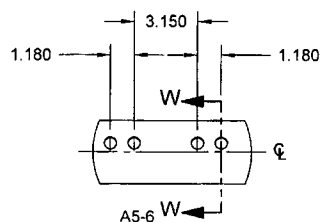
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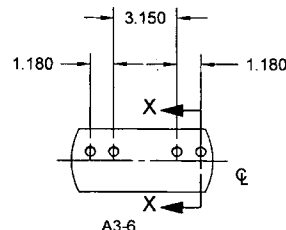
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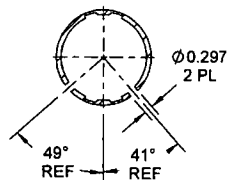
DETAIL S
SCALE 2X



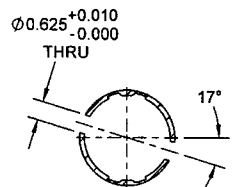
DETAIL T
SCALE 2X



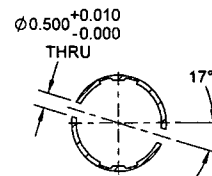
DETAIL U
SCALE 2X



SECTION V-V
SCALE 3X, 17 PL






SECTION W-W
SCALE 3X, 4 PL



SECTION X-X
SCALE 3X, 4 PL

W 6 59368

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MFG. APPR.		D2750	SHEET 6 OF 11
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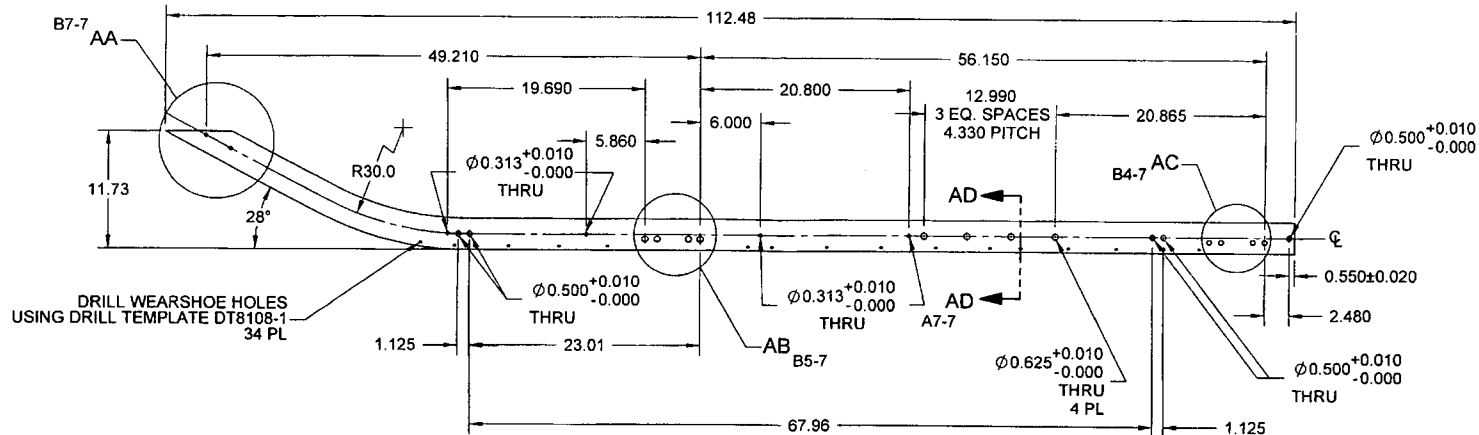
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

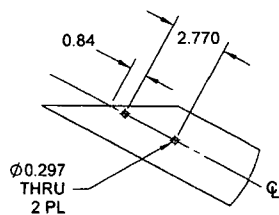
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

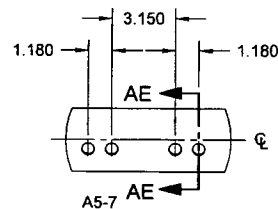
NOTE: Date & initial all entries



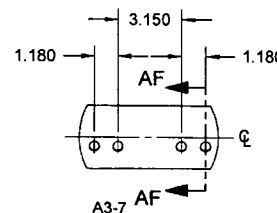
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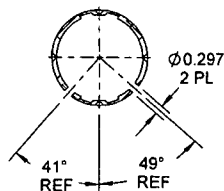
DETAIL AA
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D7-7



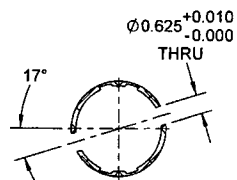
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C4-7



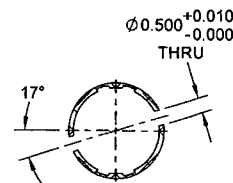
DETAIL AC
SCALE 2X
D3-7



SECTION AD-AD
SCALE 3X, 17 PL
D3-7



SECTION AE-AE
SCALE 3X, 4 PL
B6-7



SECTION AF-AF
SCALE 3X, 4 PL
B4-7

W/ 59368

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08-04-22-116

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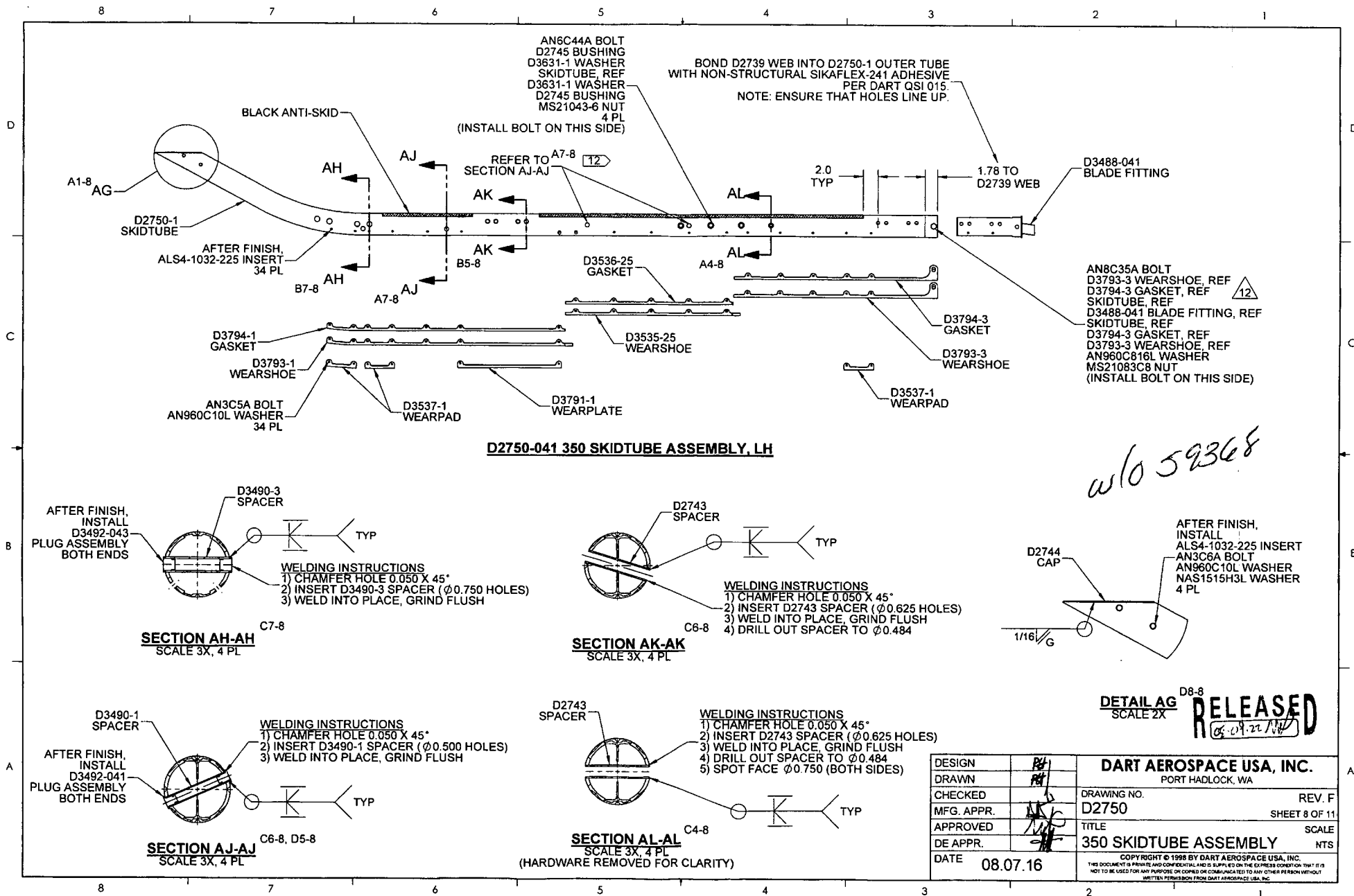
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

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NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

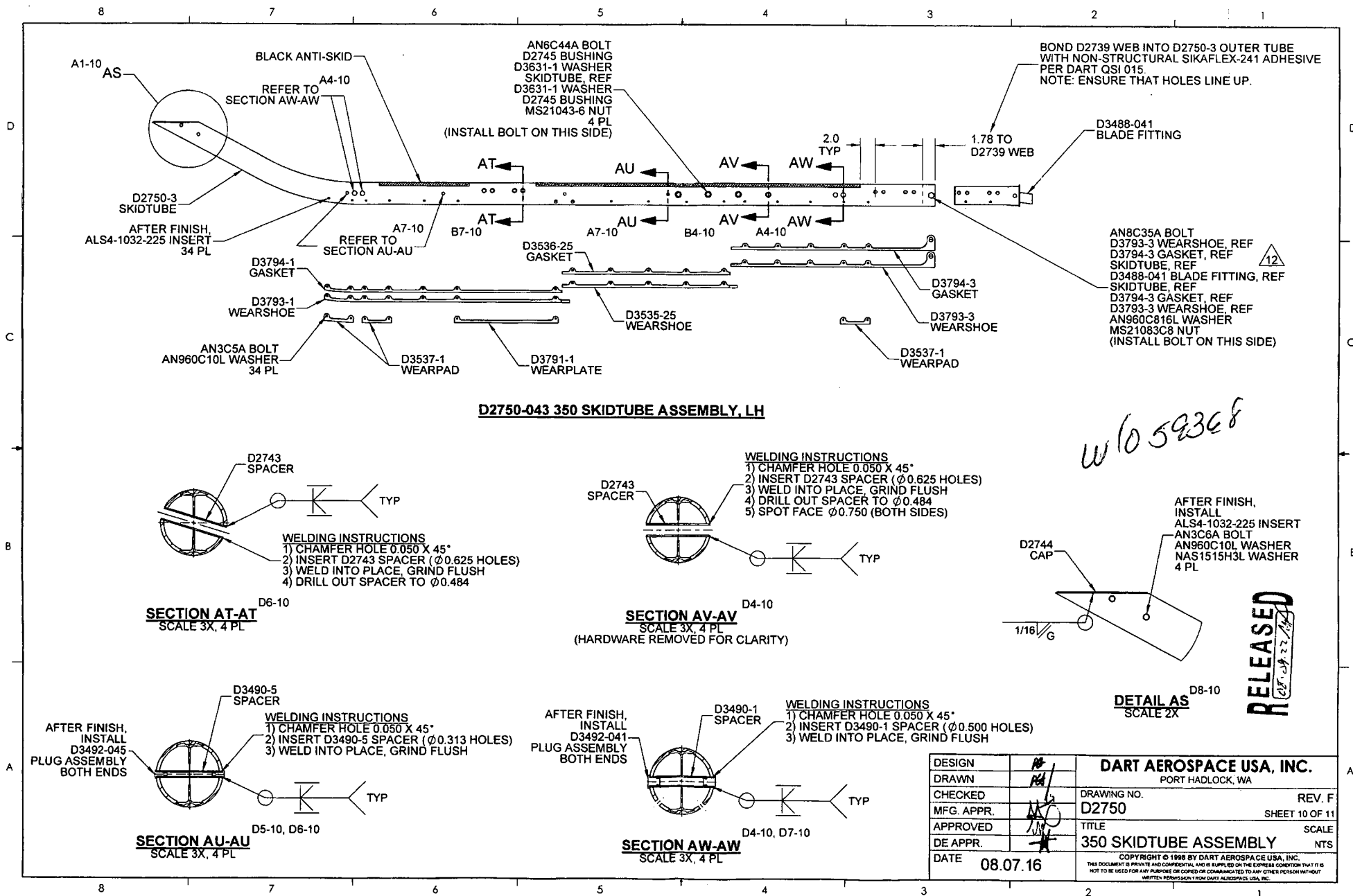
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W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 233

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barday Elliott
Job number: 53816
Part number: D350-626-014
Description: 350 skid tube
Welding Process: Tig[☒] Mig[]
Base material: Aluminium
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier Pat. Dunn Date of Test Coupon 10.06.01

Welder Barday Elliott Date of Test Coupon 10.06.01

The above named individual is qualified in accordance with AWS D17.1.2001 to weld